Eating behaviors and food intake in humans can be socially influenced. In this study, we examined the social influence of food intake in rats. Two different breeds of rats were used, diet-induced obese (DIO) and diet-resistant (DR). Rats were housed in pairs (DIO-DR, DIO-DIO, or DR-DR) with the same gender. After eight weeks on the high-fat chow diet, data showed that weight gain was different in males and females and there was a social influence. DR males paired with DIO males tended to gain more weight than DIO-DIO males, but weight gain in DIO-DR males was similar to weight gain in DR-DR males. DR females paired with DIO females tended to gain more weight than both DIO-DIO females and DR-DR females.